CLAIMS

What is claimed is:

1. A substantially pure polypeptide comprising an amino acid sequence at least 70 % identical to the amino acid sequence of SEQ ID NO:1

2. The polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence at least 90% identical to the amino acid sequence of SEQ ID NO: 1.

3. The polypeptide of claim 1, wherein said polypeptide comprises the amino acid sequence of SEQ ID NO: 1.

4. The polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO: 2.

5. The polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO: 3.

6. The polypeptide of claim 1, wherein said polypeptide comprises an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO: 4.

7. The polypeptide of claim 1, wherein said polypeptide is an *Apis mellifera* bee venom protein.

8. The polypeptide of claim 1, wherein said polypeptide is glycosylated.

9. The polypeptide of claim 1, wherein said polypeptide binds to a human IgE antibody.

10. The polypeptide of claim 1, wherein said polypeptide stimulates T-cell proliferation.

11. The polypeptide of claim 1, wherein said polypeptide binds to the monoclonal antibody 5E11 (Accession No.___).

12. An antibody which binds to the polypeptide of claim 1.

13. The antibody of claim 12, wherein said antibody is a monoclonal antibody.

14. The antibody of claim 13, wherein said antibody binds to the same epitope to which the monoclonal antibody produced by the hybridoma 5E11 (Accession No._____) binds.

15. The antibody of claim 14, wherein said antibody is the antibody produced by the hybridoma 5E11 (Accession No. _____).

16. A hybridoma producing an antibody which binds to the same epitope to which the monoclonal antibody produced by the 5E11 (Accession No. _____) binds.

17. The hybridoma of claim 16, wherein said hybridoma is hybridoma 5E11 (Accession No. _____).

18. A composition comprising polypeptide fragments of the Api m 6 protein, wherein said polypeptide fragments are between 6-72 amino acids in length.

19. The composition of claim 18, wherein said polypeptide fragments are between 20-100 amino acids in length.

20. The composition of claim 18, wherein said polypeptide fragments are between 30-70 amino acids in length.

21. The composition of claim 18, wherein said polypeptide fragments are between 40-60 amino acids in length

22. The composition of claim 18, wherein at least one polypeptide in the composition has an amino acid sequence that overlaps by at least 3 amino acids with at least one other polypeptide in the composition

23. The composition of claim 18, wherein the polypeptide fragments of Api m 6 overlap by between 5 and 10 amino acids.

24. The composition of claim 18, wherein the composition comprises of a set of polypeptide fragments that map the total length of the Api m 6 protein.

25. A pharmaceutical composition comprising the polypeptide of claim 1 and a pharmaceutically acceptable carrier.

26. The pharmaceutical composition of claim 25, further comprising a second bee venom polypeptide.

27. The pharmaceutical composition of claim 26, wherein said second bee venom polypeptide is selected from the group comprising phospholipase A_2, hyaluronidase, allergen C, mellitin, adolapin, minimine, acid phosphatase, protease inhibitor, and glycosylated IgE-binding proteins, or analogs or derivatives thereof.

28. A method of modulating an immune response, said method comprising administering the polypeptide of claim 1 to a subject in need thereof in an amount sufficient to inhibit an immune reaction by the subject against said polypeptide.

29. The method of claim 25, further comprising administering a second bee venom polypeptide to said subject.

30. The method of claim 29, wherein the second bee venom polypeptide is phospholipase A_2, hyaluronidase, allergen C, mellitin, adolapin, minimine, acid phosphatase, protease inhibitor, and acid phosphatase, and glycosylated IgE-binding proteins, or analogs or derivatives thereof.

31. A method of identifying an individual at risk for bee venom hypersensitivity, the method comprising:

administering to said individual the polypeptide of claim 1; and

measuring an immune response raised against said polypeptide, wherein a detectable immune response indicates that said individual is at risk for bee venom hypersensitivity.

32. The method of claim 31, wherein said polypeptide is administered to said subject intradermally.

33. The method of claim 32, wherein said polypeptide is administered at a concentration of less than about 1μg/ml.

34. A method of purifying the polypeptide of claim 1, the method comprising:

providing a cell expressing the polypeptide of claim 1;

contacting said cell with an antibody which binds to polypeptide comprising an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO:1 to form a polypeptide-antibody complex;

isolating said antibody-polypeptide complex; and

recovering said polypeptide from said antibody-polypeptide complex, thereby purifying said polypeptide.

35. A kit comprising, in one or more containers, a substance selected from the group consisting of: an Api m 6 polypeptide, a overlapping polypeptide fragments of an Api m 6 polypeptide, an antibody against said Api m 6 polypeptide.